

MONOLITHIC ELECTROACTIVE POLYMERS

ABSTRACT OF THE DISCLOSURE

5 The present invention relates to polymers, transducers and devices that convert
between electrical and mechanical energy. When a voltage is applied to electrodes
contacting an electroactive polymer, the polymer deflects. This deflection may be used to do
mechanical work. Similarly, when the electroactive polymer deflects, an electric field is
10 produced in the polymer. This electric field may be used to produce electrical energy. An
active area is a portion of a polymer having sufficient electrostatic force to enable deflection
of the portion and/or sufficient deflection to enable a change in electrostatic force. The
present invention relates to transducers and devices including multiple active areas. The
invention also relates to methods for actuating one or more active areas.